NASA eNTRe User Access and Security

Introduction

Due to the sensitive nature of the information stored within NASA eNTRe and transmitted across the internet to NASA TechTracS, the implementation of an encompassing security plan is paramount. The plan covers three general areas: Online Registration, Running NASA eNTRe, and Accessing NASA TechTracS.

Online Registration

Introduction

Since NASA eNTRe is a widely distributed data gathering application that accumulates information and ultimately uploads it into a central server, it is important that unique values created in the application (for example, keys used to uniquely identify database records) be truly unique. That is, two people, independently using two different copies of NASA eNTRe, must not be able to create records with the same key. If this were to happen, conflicts may arise when the information is loaded into a single database.

This problem is resolved by ensuring that each individual copy of NASA eNTRe is customized with a unique four-character code called the User Prefix.

Initial Registration

When a person registers their use of NASA eNTRe, the registration database (currently embedded within KSSbase) captures their personal information and generates a unique four-character user prefix. Since there is a significant possibility of entry error, the user prefix (along with their user classification) is encapsulated within a numeric string called the User Access Key. The User Access Key employs an algorithm that includes two independent check digits to ensure data entry accuracy. A check-digit algorithm significantly decreases miskeyed or transposed data entry errors.

The User Access Key is emailed to the user when registration is complete. If a (Co NT Rep, COTR, or NASA Innovator) user has requested access to one or more NASA TechTracS servers, the DBA(s) at those centers are sent an email message. The message details the user's request and includes the User Prefix. (See Accessing NASA TechTracS on page 2.)

Program Updates

Periodically, the NASA eNTRe application may be updated due to bug fixes, the addition of features, or improved performance. The user is not required to register again.

Running NASA eNTRe

Initial logon

After downloading and installing the application for the first time, the user is requested to enter the User Access Key. The application decodes the User Prefix and uses it to customize both the structure and the data file of NASA eNTRe. The two files are wedded using this user prefix code. On subsequent executions of the program, initialization code checks to ensure that the data file matches the structure file. This stops unauthorized users from attempting to open the data file without the proper structure.

The user establishes their username and password in NASA eNTRe. Without this information, re-entry to the application cannot be gained.

NASA eNTRe combines the User Prefix with a 14-character Date Time Stamp string to uniquely identifies new records created by NASA eNTRe.

Program Updates

Periodically, the NASA eNTRe application may be updated due to bug fixes, the addition of features, or improved performance. The user is not required to register again, however they are required to re-enter their User Access Key so that the new structure can be wedded with the existing data file. They must also re-establish their user name and password.

Forgotten eNTRe password

If a user forgets their password, it can be re-established using their User Access Key.

Accessing NASA TechTracS

Introduction

There are three classes of NASA eNTRe users that can gain access to NASA TechTracS. They are: the Company New Technology Representative (Co NT Rep), the NASA Commercial Technology Representative (COTR) and the NASA Innovator (NASA Innov). Depending on the user's location and the specific NASA Field Center security implementation, various techniques are employed to ensure secure access and transfer of information.

Intraport Access

If a NASA Field Center has implemented the recommended security mechanism, users attempting to access NASA TechTracS from outside the Field Center (or beyond a

firewall, if implemented) must obtain, install and configure special security software. The software, known as Intraport Client, is available for both Macintosh and Windows and requires the entry of a username, IP address, authentication secret, a selection of an encryption method and an encryption secret. The two secrets are much like passwords.

Ideally, each user requiring access through the Intraport should have a unique username and secrets established in the Intraport device. Special configuration software is available for the DBA (or authorized support personnel) at a NASA Field Center to maintain the Intraport user list. If the number of users becomes large and unmanageable, a shared user account may be assigned. For example, all Co NT Reps for a single contractor organization may use the same username and secrets.

Once activated, a fully encrypted and authenticated TCP/IP tunnel is established between the user's computer and the NASA Field Center network though which secure information may flow.

The DBA should provide the Intraport username and secrets to the NASA eNTRe user, possibly in the same email message that provides them with NASA TechTracS access information.

4D Server Access

NASA TechTracS requires a 4D username and password for all users accessing the server. This includes access attempts via the 4D Open for 4D API, which is used by NASA eNTRe. In order to minimize the number of usernames and passwords required, a generic username ("entre") and password ("entre") is used.

When the user first runs NASA eNTRe or when they select File:Preferences they are presented with a window requesting configuration and identification information, including information about accessing NASA TechTracS. When the user creates a new NASA TechTracS entry in this window the generic username and password is automatically entered.

In the event of a significant security breach at a NASA Field Center, it may be necessary to use non-generic usernames and passwords. In this event the user may change the appropriate entries in NASA eNTRe.

TechTracS Access

Since a generic username and password is used to gain entry to 4D Server, some control is needed to manage access by the individual. In addition, a mechanism is required that will establish a link between the four-character user prefix used by NASA eNTRe and the long-integer ID used by NASA TechTracS to identify the user.

The NASA TechTracS DBA(s) at a NASA Field Center receives an email message when a user requests access to NASA TechTracS. The email message contains the user's

registration information and their User Prefix. The DBA must locate (or create) the NASA eNTRe user's record in the NASA TechTracS People table. People records for Co NT Reps and COTRs should already exist in NASA TechTracS since these people should have been linked with one or more Contract_Grant records in the Contact section.

The DBA must enter the User Prefix into the External User Prefix field in the People record and should establish the External User Password value. When the user directs NASA eNTRe to connect to NASA TechTracS, the program requests the User Password. If it does not match the value stored in NASA TechTracS, access is denied. Once access is approved by this mechanism, NASA eNTRe confirms that the user has the necessary access privilege by verifying the presence of a keyword attached to the NASA TechTracS People record. The keywords are: *COTR*, *NT_Rep*, *NASA_Innov*.

Once the People record has been properly configured, the DBA should send an email message to the NASA eNTRe user informing them of their NASA TechTracS External User Password and of their Intraport username and secrets (if any).

Glossary

TERM	DESCRIPTION
4D Password	The alphanumeric string needed to gain access through 4th Dimension's built-in access system. For this application, the default value "entre" is used.
4D Username	The alphanumeric string needed to gain access through 4th Dimension's built-in access system. For this application, the default value "entre" is used.
Authentication Secret	The alphanumeric string required by Intraport to properly authenticate the access request by the NASA eNTRe user to NASA TechTracS.
Co NT Rep	The Company New Technology Representative.
COTR	The NASA Commercial Technology Representative.
DBA	The NASA TechTracS Database Administrator.
Encryption Method	The specific type of encryption algorithm to use in communication between the NASA eNTRe user and NASA TechTracS.
Encryption Secret	The alphanumeric string required by Intraport to securely encrypt the communication between NASA eNTRe and NASA TechTracS.
External User Password	The alphanumeric string entered into the NASA TechTracS People record and required by NASA eNTRe to enable a connection with NASA TechTracS.
External User Prefix	The alphanumeric string entered into the NASA TechTracS People record and required by NASA eNTRe to identify a NASA eNTRe user to NASA TechTracS.
Intraport	A hardware device located at each NASA Field Center used to authenticate users and encrypt communications between NASA eNTRe and NASA TechTracS.
Intraport Client	A software component installed on a NASA eNTRe user's computer to allow secure communications with NASA TechTracS.
Intraport Username	The alphanumeric string required by Intraport to identify the NASA eNTRe user.
IP Address	The numeric sequence identifying the Intraport server to the Intraport Client software.
NASA Innovator	A NASA employee using NASA eNTRe to submit New Technology Reports to NASA TechTracS.
NASA TechTracS ID	The numeric sequence that identifies a People record in NASA TechTracS.
User Access Key	An eighteen digit numeric sequence generated when a NASA eNTRe user firsts registers. It encapsulates the User Prefix and User Type.
User Name	The name used by the eNTRe user upon initial configuration and when subsequently starting NASA eNTRe.
User Password	The password used by the eNTRe user upon initial configuration and when subsequently starting NASA eNTRe.
User Prefix	A four character alphanumeric string that uniquely identifies the NASA eNTRe user.